

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

Claims 1-20 (canceled)

21. (new) An enzyme solution comprising (a) an isolated β 1,3-N-acetyl-D-galactosamine transferase which transfers N-acetyl-D-galactosamine to N-acetyl-D-glucosamine with β -1,3 linkage and has an amino acid sequence sharing at least 90% sequence identity with (i) SEQ ID NO: 2 from amino acid 189 to amino acid 500 or (ii) SEQ ID NO: 4 from amino acid 35 to amino acid 504, (b) buffer with a pH which is not from 6.2 to 6.6, and (c) divalent metal ion.

22. (new) The enzyme solution of claim 21, wherein the β 1,3-N-acetyl-D-galactosamine transferase has the amino acid sequence shown in SEQ ID NO: 2 or 4.

23. (new) The enzyme solution of claim 21, wherein the β 1,3-N-acetyl-D-galactosamine transferase is comprised of the amino acid sequence (i) from amino acid 189 to amino acid 500 of SEQ ID NO: 2 or (ii) from amino acid 35 to amino acid 504 of SEQ ID NO: 4.

24. (new) The enzyme solution of claim 21, wherein the β 1,3-N-acetyl-D-galactosamine transferase is comprised of an amino acid sequence sharing at least 90% sequence identity with SEQ ID NO: 2 from residue 189 to residue 500.

25. (new) The enzyme solution of claim 21, wherein the β 1,3-N-acetyl-D-galactosamine transferase is encoded by a nucleotide sequence that can hybridize to the complement of SEQ ID NO: 1 from nucleotide 106 to nucleotide 1503 under high stringency conditions of hybridizing in 2 \times SSC and 50% formamide at 40°C and washing in 0.2 \times SSC and 0.1% SDS at 68°C.

26. (new) The enzyme solution of claim 21, wherein the β 1,3-N-acetyl-D-galactosamine transferase is comprised of an amino acid sequence sharing at least 90% sequence identity with SEQ ID NO: 4 from amino acid 35 to amino acid 504.

27. (new) The enzyme solution of claim 21, wherein the β 1,3-N-acetyl-D-galactosamine transferase is encoded by a nucleotide sequence that can hybridize to the complement of SEQ ID NO: 3 from nucleotide 103 to nucleotide 1512 under high stringency conditions of hybridizing in $2\times$ SSC and 50% formamide at 40°C and washing in $0.2\times$ SSC and 0.1% SDS at 68°C .

28. (new) The enzyme solution of claim 21, wherein the pH of the buffer is from about 5.0 to about 7.5.

29. (new) The enzyme solution of claim 21, wherein the pH of the buffer is (i) greater than 5.0 and less than 6.2 or (ii) greater than 6.6 and less than 7.5.

30. (new) The enzyme solution of claim 21, wherein the divalent metal ion is Mn^{2+} , Co^{2+} , or Mg^{2+} .

31. (new) A process of using an enzyme solution of claim 21, wherein the process comprises catalyzing transfer of an N-acetyl-D-galactosamine (GalNAc) residue of a donor substrate to an N-acetyl-D-glucosamine (GlcNAc) residue of an acceptor substrate, wherein linkage between GalNAc and GlcNAc residues is a β 1,3 glycosidic linkage, in the enzyme solution.

32. (new) The process according to claim 31, wherein the β 1,3-N-acetyl-D-galactosamine transferase has the amino acid sequence shown in SEQ ID NO: 2 or 4.

33. (new) The process according to claim 31, wherein the β 1,3-N-acetyl-D-galactosamine transferase is comprised of the amino acid sequence (i) from amino acid 189 to amino acid 500 of SEQ ID NO: 2 or (ii) from amino acid 35 to amino acid 504 of SEQ ID NO: 4.

34. (new) The process according to claim 31, wherein the β 1,3-N-acetyl-D-galactosamine transferase is comprised of an amino acid sequence sharing at least 90% sequence identity with SEQ ID NO: 2 from residue 189 to residue 500.

35. (new) The process according to claim 31, wherein the β 1,3-N-acetyl-D-galactosamine transferase is encoded by a nucleotide sequence that can hybridize to the complement of SEQ ID NO: 1 from nucleotide 106 to nucleotide 1503 under high stringency conditions of hybridization in 2 \times SSC and 50% formamide at 40-50°C and washing in 0.2 \times SSC and 0.1% SDS at 68°C.

36. (new) The process according to claim 31, wherein the β 1,3-N-acetyl-D-galactosamine transferase is comprised of an amino acid sequence sharing at least 90% sequence identity with SEQ ID NO: 4 from amino acid 35 to amino acid 504.

37. (new) The process according to claim 31, wherein the β 1,3-N-acetyl-D-galactosamine transferase is encoded by a nucleotide sequence that can hybridize to the complement of SEQ ID NO: 3 from nucleotide 103 to nucleotide 1512 under high stringency conditions of hybridization in 2 \times SSC and 50% formamide at 40-50°C and washing in 0.2 \times SSC and 0.1% SDS at 68°C.

38. (new) The process according to claim 31, wherein the pH of the buffer is from about 5.0 to about 7.5.

39. (new) The process according to claim 31, wherein the pH of the buffer is (i) greater than 5.0 and less than 6.2 or (ii) greater than 6.6 and less than 7.5.

40. (new) The process according to claim 31, wherein the divalent metal ion is Mn^{2+} , Co^{2+} , or Mg^{2+} .